

CONVERTER WITH INTEGRATED  
ACTIVE CLAMP CIRCUIT AND BIAS CIRCUIT

ABSTRACT OF THE DISCLOSURE

A converter includes a transformer having a primary winding, a secondary winding and an auxiliary winding, a first switching device for connecting an input voltage to the primary winding of the transformer, an output circuit connected to the secondary winding, a controller, and an integrated active clamp and primary bias circuit. The integrated active clamp and primary bias circuit includes the auxiliary winding and a second switch providing a bias voltage to the controller to alternately operate the first and second switches between conductive and non-conductive states. When the first switch is conductive the second switch is nonconducting and power is transferred from the primary winding to the output circuit via the secondary winding and from the auxiliary winding to the controller. When the first switch is nonconducting, the second switch is conducting and the voltage across the primary switch is clamped.